

U.S. Patent Application Serial No. **10/531,952**
Response filed January 12, 2010
Reply to OA dated October 20, 2009

REMARKS

Claims 1-14 are pending in this application, with 1 and 9-14 withdrawn from consideration. No amendment is made in this Response. It is believed that this Amendment is fully responsive to the Office Action dated October 20, 2009.

Claims 2 and 7 are rejected under 35 U.S.C. §103(a) as being unpatentable over Bastioli et al. (WO 02/059199) in view of Kanamori et al. (U.S. 6,262,184) with evidence provided by the Showa Product Data page for Bionolle (2007). (Office action paragraph no. 3)

The rejection of claims 2 and 7 is respectfully traversed, and reconsideration is requested.

In traversing the rejection, Applicant maintains the arguments made in the Response dated June 9, 2009, where Applicant argued that the rejection requires modifying the content of lactic acid based resin in Bastioli, but that there is no suggestion or motivation in the references for such a modification. In particular, Applicant argued that Bastioli discloses that the invention has a **maximum** of 30% of the lactic acid based resin, while claim 2 requires a lactic acid resin content of at least 45%.

Applicant here responds to the Examiner's Response to Arguments in paragraphs no. 8-9 of the Office action. Paragraph no. 8, section (B), summarizes Applicant's arguments regarding Bastioli, with the response being in section no. 9. In particular, the Examiner states:

“While it is noted that Bastioli teaches polylactic acid between 6 and 30% by weight in the appendix and claims, **there is no teaching against** adjusting the content of

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polylactic acid to a higher content. In fact, only low content of polylactic acid is taught against in the specification. (See p. 9, paragraph 4)" (emphasis added)

That is, the Examiner is stating that the upper limit of 30% for component C in the stated range of 5 to 30% in Bastioli (page 4, line 29) does not represent a true upper limit for this component in Bastioli's invention. At the bottom of page 5 of the Office action, the Examiner refers to page 9, paragraph 4, of Bastioli, stating: "in fact, only low content of polylactic acid is taught against in the specification."

Applicant notes, however, that this cited portion of Bastioli merely gives an explanation as to why concentrations of C polymer below 5% are not part of Bastioli's invention, but makes no comment on the upper limit of 30%. The fact that Bastioli has not provided an explicit reason for the stated upper limit of 30% does **not** mean that there is no teaching in the reference against values above 30%. The explicit teaching of an upper range limit of 30% is, in itself, a teaching against values above 30%.

The Examiner also states (page 6 of the Office action) that Bastioli's Example 7 (page 16, Table 1) is an inventive example with 40% polylactic acid (component C). It is true that the value of component C in Example 7 is 40%. However, **Bastioli does not state that Example 7 is an inventive example.** Rather, it is clear, based on Bastioli's "description of the invention" on page 4, that **Example 7 is not an inventive example.**

This can further be seen from the discussion in Bastioli of the results of Examples 2-11 at the bottom of page 14: "The results thus obtained demonstrated how the ranges of the polymers in

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the mixture are crucial to the simultaneous achievement of considerable mechanical and transparency characteristics of the film” That Example 7 is non-inventive is evident from a review of the data.

Examples 1-6, 8, 10 and 11 of Bastioli are all **inventive** examples, with values of $(A/(A+B))$ and $(C/(A+B+C))$ within the inventive range. Example 7 is **outside** the range for these two parameters, and Example 9 is outside the range for $(C/(A+B+C))$. Therefore, Examples 7 and 9 are intended to be **non-inventive** (i.e., comparative) examples.

Reviewing Bastioli’s results, Example 7 has the **lowest** values by far among the 11 examples for each of the measured property parameters E_{cross} (7.4 N/mm) and E_{long} (9.1 N/mm). This is a tear-resistance test (page 14, lines 1-6) and Bastioli indicates at page 5, last paragraph, that the **films of the invention should have values of between 10 and 100 N/mm**, preferably 15 to 90, and more preferably 20-80 for this parameter. That is, the value should be **at least 10**. Example 7 **fails** to meet this standard and is clearly intended to illustrate that non-inventive values of A, B and C lead to non-inventive films with inferior characteristics.

Moreover, the value of modulus of elasticity E (MPa) is much higher for Example 7 (1321 MPa) than the other examples, and this value **exceeds** the maximum for inventive films of 1200 MPa, as described at page 6, line 4. Again, Example 7 is intended to illustrate that non-inventive values of A, B and C lead to non-inventive films, which are an inferior product.

As Applicant has previously argued, Bastioli’s “description of the invention” at page 4, lines 15-29, **does** describe Bastioli’s invention. The Examples in Table 1 of Bastioli are **not** all inventive

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examples, and it is clear that Example 7, which does not meet Bastioli's inventive compositional limitations, **fails** to meet the tear-resistance and modulus of elasticity parameters of Bastioli's inventive films, and is a **non-inventive example showing inferior properties**.

That is, Example 7 in Table 1 is clearly intended to "teach away" from compositions outside of Bastioli's inventive range. Example 7 of Bastioli fully supports Applicant's previous argument that there is no motivation to modify Bastioli to have values outside of the inventive range, since Bastioli is teaching that values outside the inventive range lead to inferior performance in the tear-resistance and modulus of elasticity parameters.

On page 7, the Examiner again reviews the teaching of Kanamori, stating that "Kanamori teaches that a high ratio of polylactic acid will give a high tensile strength and flexural strength." However, as Applicant argued on page 4 of the last Response:

"However, the Examiner's argument is based on the effects of polylactic acid in Kanamori's invention, which is based on a binary system of polylactic acid (A) and aliphatic polyester carbonate (B). Therefore, there is no motivation based on Kanamori to modify Bastioli."

Applicant maintains this position. Kanamori's disclosure is specific to Kanamori's binary system, and is **not a general teaching that a high ratio of lactic acid is good in any composition**. One of skill in the art would not apply the teachings of Kanamori to Bastioli. Moreover, Bastioli's **own data** demonstrate that increasing the lactic acid concentration above Bastioli's inventive range causes inferior performance.

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Applicant submits that the Examiner's argument on page 7 that "the content of polylactic acid based resin is a results effective variable" does not provide a basis for the proposed modification of the references. The content of polylactic acid does affect the composition, but in fact, Bastioli's own data demonstrate that too much polylactic acid in Bastioli's system leads to an inferior product.

Claims 2 and 7 are therefore not obvious over Bastioli and Kanamori, taken separately or in combination.

Claim 3 is rejected under 35 U.S.C. §103(a) as being unpatentable over Bastioli et al. (WO 02/059199) in view of Kanamori et al. (U.S. 6,262,184) with evidence provided by the Showa Product Data page for Bionolle (2007), further in view of Wypych (2000). (Office action paragraph no. 4)

Claims 4-5 are rejected under 35 U.S.C. §103(a) as being unpatentable over Bastioli et al. (WO 02/059199) in view of Kanamori et al. (U.S. 6,262,184) with evidence provided by the Showa Product Data page for Bionolle (2007), further in view of Downie et al. (US 2001/0027225). (Office action paragraph no. 5)

Claim 6 is rejected under 35 U.S.C. §103(a) as being unpatentable over Bastioli et al. (WO 02/059199) in view of Kanamori et al. (U.S. 6,262,184) with evidence provided by the Showa Product Data page for Bionolle (2007), further in view of Akao et al. (US 5,814,497). (Office action paragraph no. 6)

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Claim 8 is rejected under 35 U.S.C. §103(a) as being unpatentable over Bastioli et al. (WO 02/059199) in view of Kanamori et al. (U.S. 6,262,184) with evidence provided by the Showa Product Data page for Bionolle (2007), further in view of Obuchi et al. (US 6,916,950).
(Office action paragraph no. 7)

These rejections are respectfully traversed, and reconsideration is requested. Claims 3-4, 6 and 8 all depend ultimately from claim 2, and these rejections are based on the combination of Bastioli and Kanamori. Applicant has argued above that no *prima facie* case of obviousness can be made for claims 2 and 7 over the combination of Bastioli and Kanamori, and the additional references cited in these rejections do not correct the deficiency in that *prima facie* case.

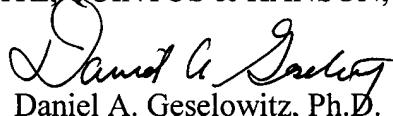
If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the applicants' undersigned agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

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In the event that this paper is not timely filed, the applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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